Assessing African American Adolescent Food Intakes

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Abbreviated Abstract

This Phase II SBIR will fully develop and validate the Healthy Eating Self-Monitoring Tool (HEST), a CD-ROM-mediated food record for measuring fruit and vegetable consumption among economically disadvantaged Black adolescents aged 11 to 14 years. Drawing from Phase I outcome data and current best practices in dietary assessment, Phase II will document planned revisions to the prototype HEST developed in Phase I of this research. Planned revisions will undergo review by a panel of professionals with expertise in dietary assessment and focus groups of adolescents representative of the target population. Feedback provided by these referents will inform plans to fully develop the measure. The fully developed HEST will be programmed for CD-ROM-mediated delivery.

Phase III will entail dissemination of the HEST to schools and social service agencies such as those participating in this research and development effort. The fully developed measure is intended for use as a self-monitoring tool in health promotion programs designed to increase fruit and vegetable consumption among economically disadvantaged Black adolescents.

Primary Investigator

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B.A. Ramapo College; M.S., Ph.D. Columbia University. Dr. Di Noia is a Research Scientist with Intersystems Inc., a research and development firm specializing in the development, testing, and dissemination of health promotion and chronic disease prevention programs for urban, at-risk youth. She is also an Associate Research Scientist at Columbia University School of Social Work, where she teaches graduate courses in research methods and statistics.

Research Team & Affiliations

Jennifer Di Noia, Isobel Contento, & Steven Schinke (Columbia University); Eric Rimm (Harvard School of Public Health).

Total Budget

$825,761

Research Objectives

Aim 1: Fully develop the Healthy Eating Self-Monitoring Tool (HEST), an interactive food record for measuring fruit and vegetable consumption among economically disadvantaged Black adolescents; and
Aim 2: Examine the performance of the measure relative to intake measured by direct observation.

Theory/Hypothesis

(1) HEST-recorded item intake; daily intake measures of fruits, juices, and vegetables; and total (3-day) fruit and vegetable intake will not differ significantly from observed item, daily, and 3-day intake measures; and (2) youths will universally rate the HEST as interesting, enjoyable, and worth recommending to peers.

Experimental Design

Expert panel review of planned revisions to the Phase I measure and incorporation of recommended changes; review of screen mocks-ups for inclusion in the fully developed measure by focus groups of economically disadvantaged Black adolescents and incorporation of recommended changes; comparison of observed and HEST-recorded intake measures gathered over a consecutive 3-day interval; and comparison of user acceptability ratings of the HEST with an a priori user acceptability criterion.

Final Sample Size & Study Demographics

Eighty-nine Black adolescents (52% female) with a mean age of 12 years. Participants were recruited through summer camps offered at youth services agencies located in New York City. The selected agencies served a predominantly Black adolescent population, had on-site computing facilities, and were located in communities in which 20% or more of households reported 2000 family incomes below Federal poverty thresholds.

Data Collection Methods

Participants were served breakfast, lunch, and dinner over a consecutive 3-day interval. Observers present at meals recorded youths' fruit and vegetable intake. After dinner on the third day, participants completed a form for rating, on 5-point scales, the extent of their interest in, enjoyment of, and likelihood of recommending the HEST to peers.

Outcome Measures

HEST-recorded fruit, juice, and vegetable intake; intake measured via direct observation; participants' interest in, enjoyment of, and likelihood of recommending the HEST to peers.

Evaluation Methods

HEST-recorded intake measures were compared with observed intake using Wilcoxon signed ranks tests. Descriptive statistics were used to examine mean ratings of participants' interest in, enjoyment of, and likelihood of recommending the HEST to peers. Observed ratings were compared with an a priori criterion rating for establishing user acceptability of the HEST.

Research Results

Analyses revealed nonsignificant differences between observed and HEST-recorded intake for 78% of items studied. There were nonsignificant differences between mean observed and HEST-recorded daily intake measures (excluding juices). Mean HEST-recorded total (3-day) intake (14.65 servings) did not differ significantly from mean observed 3-day intake (15.21 servings). Youths' HEST-recorded intake was accurate within 0.56 of a serving of their observed intake. Mean ratings of the HEST were above the criterion rating for each of the user acceptability dimensions assessed.

Barriers & Solutions

No major problems encountered.

Product(s) Developed from This Research

Healthy Eating Self-monitoring Tool (HEST)